

## **Proper Cost Allocation for New Transmission Investment in an LMP Market**

A major issue that must be resolved prior to any new transmission construction is the determination of the parties that will pay the costs. Since retail customers ultimately pay for all prudently incurred transmission costs, the Department of Energy and the Federal Energy Regulatory Commission ("DOE" and "FERC") recently indicated support for the principle of cost allocation that states that the costs of transmission upgrades should be borne by the customers who need or benefit from the upgrades. Notwithstanding FERC's and DOE's recent policy direction, some parties still want to socialize the costs of transmission upgrades across all customers within a broad region, irrespective of who benefits. These parties are attempting to refuel the debate centering around which set(s) of customers should pay for necessary additions to the transmission system, assuming that costs for such investments are prudently incurred.

Energy East is committed to the principle of cost allocation following cost causation -- the parties who cause the need for and/or benefit from new transmission investment should pay the costs. Upgrade costs should not be socialized across all customers in an ISO or RTO. This position is supported with the following points:

1. The principals of cost responsibility following cost causation are consistent with the philosophy behind locational marginal pricing for energy.
2. Socialization of costs will harm customers who do not benefit.
3. Projects designed to provide necessary levels of reliability as well as projects designed to provide economic benefits should have costs recovered from the beneficiaries of such projects.
4. Fears that applying principals of cost responsibility following cost causation will lead to endless litigation are unfounded.

Energy East supports FERC's similar policy proposals in its July 31, 2002 Standard Market Design Notice of Proposed Rulemaking. There, FERC observes:

We believe that the most precise matching of beneficiaries and cost recovery responsibility would encourage greater regional cooperation to get needed facilities sited and built. Our preference is to allow recovery of the costs of expansion through participant funding, *i.e.*, those who benefit from a particular project ... pay for it.

(Paragraph No. 197). Energy East fully supports this position for the reasons noted below.

Arrangements involving socialization of new transmission costs are not merely academic. For example, under the auspices of ISO - New England, a system of cost socialization is in effect whereby customers in Maine, New Hampshire and Vermont will partially pay for major transmission reinforcements in Southwest Connecticut. Fairness demands proper cost allocation.

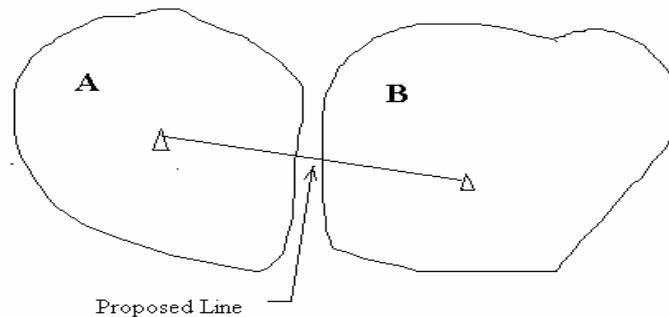
**A. The principle of cost responsibility following cost causation is consistent with an LMP market**

As discussed in this section, LMP systems that are being adopted throughout the Nation send efficient price signals. Following the principal of cost allocation following cost causation also sends efficient price signals and is fair. In contrast, socializing the costs of transmission upgrades would negate efficient price signals and result in non-competitive and inefficient transmission investments funded on the backs of customers and regions that do not benefit from the investments. Proper coordination of transmission cost allocation and energy markets based on LMP's price signals is essential to achieve rational and efficient markets.

The system of cost allocation in energy markets is moving to a locational marginal pricing methodology, whereby energy prices vary on a nodal/zonal basis depending upon the existence of transmission congestion across interfaces. For example, areas rich in inexpensive generation and with less load will experience lower energy prices than locations with high-cost generation and very high load. These price differentials will send price signals so that more generation is built where it is needed and not where there is already more than can be used due to transmission constraints. When congestion is present, loads on the congested side of interfaces experience higher energy prices than those on the uncongested side. Due to its success in managing congestion and providing proper pricing signals to the marketplace in the NY and PJM ISOs, this system of pricing has achieved general recognition as the leading congestion management system and is being proposed by FERC for the Standard Market Design, and ISO-New England already adopted this model for implementation in the near future. With PJM's western expansion, the entire Northeast and Mid-Atlantic regions and substantial parts of the Mid-west have already adopted this model.

It is important to note that the socialization of costs has been expressly rejected with the advent of LMP as the preferred method to manage congestion of the transmission system. Socialization principles fail to provide proper price signals for the location of new generation and transmission. It is the differing price signals across interfaces that are important for the market to determine the need, the location and the commercial viability of such investment.

An example of a project designed to relieve congestion and provide economic benefits to customers is illustrative. Consider two LMP price zones, A and B, similar in size and load, separated by an interface. Generation is located in each zone and bid into the market with the result that prices in B are higher than prices in A in times of congestion. A transmission line is proposed to be constructed across portions of both zones to relieve congestion. This will cause prices in both zones to converge (note that any Transmission Congestion Contracts (TCCs) or Financial Transmission Rights (FTRs) created by the line are worthless if congestion is fully relieved). Because of the congestion relief from A to B, prices in region A will rise as more power is generated and exported from A, with higher priced generators in that region operating on the margin according to the supply curve. Similarly, prices in B will decrease as less expensive generation from A displaces the more expensive generation in B.



**Figure 1**

If the costs of the new transmission line were socialized the net effect would be the socialization of congestion costs. Consider a cost of congestion of \$8 million per year and a cost of the transmission line of \$10 million per year. With this cost structure, the transmission project is not economical, would not be built, and the \$8 million per year would continue to be paid by customers in B. However, if the cost of the line were \$6 million per year, it would be built. It is only logical that the customers in B pay for the line. They will be saving \$2 million a year.

Under a system of socialization, customers in each zone would pay \$3 million per year for the line, resulting in savings of \$5 million for customers in B but at a cost of \$3 million for customers in A. Now, multiply these figures by a

factor of 10 or 100 to consider the ramifications of erroneous cost allocation because major reinforcements are very expensive.

### **B. Socialization of costs for economic projects will harm customers that receive no benefit**

In the above example, it is readily seen that socialization of costs for transmission adds an additional negative impact to the customers in the non-congested area. Negative impacts for these customers already include,

- a) Perceived problems in terms of land use, aesthetics, etc. (the historical objections to new transmission), and,
- b) Market prices can be expected to rise in their region.

Socialization of costs adds a third impact:

- c) Customers in zone A are expected to pay for a share of the line, even though the project is designed to benefit consumers in zone B.

In terms of gaining approval of the line in the above example, socialization of construction costs may be expected to add additional impetus for intervenors located in A to protest during need and siting proceedings. This potentially makes it more difficult for the facility to gain regulatory approval, and can add upward pressure on the overall project budgets and delay in-service dates.

Contrast this situation with a system of cost allocation based on the premise that the intended beneficiaries of the project pay for the line. It is simply unfair to socialize the costs of the investment.

### **C. Projects to meet reliability criteria should be treated similarly**

The principle of cost allocation following cost causation applies equally to projects designed to meet identified reliability criteria. These projects should be treated no differently than projects designed to relieve congestion. For example, a major transmission project in southeastern NY will do nothing to benefit reliability in western NY or in northern New England. Similarly, a major addition around Boston will not increase reliability in Long Island or Buffalo. A centralized and coordinated planning process will be able to identify beneficiaries of reliability enhancements or the areas that give rise to the NEED for the project. While it is recognized that some major transmission additions increase the reliability of the bulk system and may provide some level of benefit to many

customers in an ISO/RTO, those that primarily benefit can still be identified, and the exception to the principle should not swallow the principle.

**D. Some parties suggest that due to the difficulty of identifying the beneficiaries of a project, endless litigation will result. This concern is unfounded.**

Policy makers should reject arguments that suggest that it will be very difficult to achieve consensus regarding the beneficiaries of a project, and that such disagreements will cause endless controversy and potential litigation to the detriment of needed construction. These arguments elevate form and procedural convenience over substance and fairness. These arguments do not provide a justification for allocating costs in an inefficient and unfair manner. Moreover, these arguments fail to recognize the procedural solution – well designed ISO/RTO transmission planning processes with FERC as a backstop.

This argument does not recognize that the planning process in a centralized LMP market will examine future economics and reliability on a zonal basis. Thus, forecasts that estimate the economic and reliability improvements a new project will bring to the system readily identify the beneficiaries. In New York, the LMP zones are identical to zones examined in the planning process for reliability. While there is bound to be controversy regarding study methodology, assumptions as to future load growth, generation additions, etc., this will be true irrespective of cost allocation methodology. Some have suggested that the benefits may change over a long amortization period. But mere speculation has never been a rational basis for the allocation of costs. There is no doubt, however, that it will be necessary for an independent party to perform the planning studies and identify the beneficiaries. This is another reason why ISOs and RTOs need to be independent of market participants. As in all disputes, FERC is available as a backstop decision-maker.

A well laid-out step-by step rule-based approach adhering to cost-causation principles will provide a rational basis for a national platform. Such an approach would help mitigate the potential controversy over beneficiaries of a project. Tariff language could include the following:

- The ISO/RTO will have full responsibility (subject to FERC review and State siting) for determining the scope of benefits accruing from new transmission investment in the systems they control and identifying what parties receive those benefits.
- Once a transmission investment is proposed, the ISO/RTO will perform the benefit evaluation on project-specific forecasts and assumptions developed by its planning staff as well as those provided by the proposing party subject to a reasonableness review by the ISO/RTO. Stakeholder input to the

evaluation will be afforded by the ISO/RTO in accordance with its planning advisory committee procedures.

- In the case of projects that are justified primarily on the basis of congestion relief, the ISO/TO will identify the beneficiaries based on forecasted changes in localized marginal prices.
- In the case of projects that are justified on the basis of fixing localized reliability problems, ISO/RTO will identify the beneficiaries based on transmission reliability studies.

In the case of projects that are justified on the basis of congestion relief or fixing localized reliability problems, but that also have reliability benefits that extend beyond a specific geographic area, the ISO will determine the relative extent to which various parties benefit.

- In either case, the meaningful stakeholder processes will allow for full vetting of the issues and will trim the number of cases that may require FERC resolution.
- Customers assigned cost responsibility will be charged based on a revenue requirement that covers 100% of project investment over the FERC authorized amortization period, or until otherwise fully recovered, plus 100% of O&M during that same period. After that period, on-going O&M costs may be rolled in to the owning party's revenue requirements.

## **Recent DOE and FERC Direction**

Both DOE and FERC have recently provided some guidance regarding this issue. In the National Transmission Grid Study, published May, 2002, DOE addresses the pricing of transmission services to reflect true costs in the portion of the report entitled "Relieving Transmission Bottlenecks Through Better Operations" (section 4, pages 38-48). Here DOE expresses a clear preference for market-based pricing signals and specifically recommends that "... uplift charges, in which costs are recovered from all transmission users on an equivalent basis, should be minimized."

FERC, as well, appears to be giving some additional direction. In its order regarding the New England Power Pool – ER02-1646-000, issued June 14, 2002, FERC ruled that the continued use of NEPOOL's socialized cost allocation methodology must be reviewed when LMP is implemented in New England, as it may no longer be appropriate. Although this ruling was in reference to fixed capacity payments to generators, it is clear that FERC is recognizing the principals of cost causation and proper pricing signals and is expressing a desire to minimize socialization. As discussed above, FERC has adopted the principle

of cost allocation following cost causation in the SMD NOPR. Energy East believes enlightened regulators will reinforce this finding.

EEL is taking a similar view. In the “EEL Principals on Standard Market Design” (draft dated June 3, 2002), EEL states:

“Transmission pricing should promote access to all potential users by pricing that:

- Seeks to assign responsibility for cost recovery consistent with the use of the system. Cost responsibility should follow cost causation.
- Seeks appropriate vehicles to minimize any cost shifting that occurs.”

## Implementation

The principles behind the visibility of locational marginal pricing can also be used to facilitate cost recovery by the transmission owners who will be financing and owning necessary future construction, while at the same time providing a vehicle to collect costs from the benefiting loads.

At the NY ISO, hourly prices for the day-ahead and real time markets are computed and posted for each of the NY load zones. The prices consist of those for energy, the cost of losses and the cost of congestion. The hourly prices are multiplied by hourly-metered consumption, summed and billed to LSEs in each zone.

A fourth component, new transmission, can be added to the posting for the zones in which the transmission adds benefits. The transmission rate would be computed on a \$ per Mw-hr basis, as are energy prices. For example, a project designed to relieve congestion and costing \$100 million, with a FERC-authorized 20% carrying charge (including return, depreciation, O&M and taxes), solely benefiting a single zone with an average load of 500MW would have a rate of:

$$\frac{\$100 \text{ million} \times 0.20}{500 \text{ Mw} \times 8760 \text{ hrs}} = \$4.57 / \text{Mw-hr}$$

Note that the line would not be built if the average expected congestion savings were less than \$4.57 per Mw-hr.

The ISO/RTO would collect these costs from the loads, as is current practice for energy, and send on the transmission component to the facility owner. Note that the transmission charge would cease when recovery of costs is fully accomplished according to the allowed amortization period or earlier if payments exceed expectations. Future O&M and property tax expenses of the

facility could then be rolled into base transmission rates. Customers would continue to benefit, even after the capital costs of the facility are recovered.

Alternatively, the ISO/RTO could institute a demand-based (\$/MW) transmission rate, assessed to the beneficiaries of the project as an addition to their wholesale energy bill. Again, the ISO/RTO would forward the collections to the project investor.

This recovery treatment also tends to enhance the transmission owner's willingness to build. The investing TO does not experience the trouble of a FERC rate case and substantial regulatory lag before beginning recovery of the investment. Recovery is not contingent upon deferral of revenues or prematurely lifting state-PUC imposed rate caps that are in place for many utilities, although the LSEs paying for the facility will still need to address retail recovery through their PUC(s). This recovery treatment, along with reasonable authorized returns and amortization periods, will help reverse the steep decline of new transmission construction that has been experienced over the past decade.

## **CONCLUSION**

Energy East urges policy makers to honor the principle of cost allocation following cost causation because it is fair, results in efficient price signals, will overcome the regional and state political obstacles to new transmission that would persist if socialization were the rule, and because it is the best solution. Arguments about administrative convenience are not persuasive and should be rejected. Those seeking to fan the dying embers of socialization have simply not made the case. Indeed, the case cannot be made.



